

1: Identification of the Substance and Supplier

Product Name	ORION METHOMYL 200SL
Recommended Use	Insecticide
Suppliers Details	Orion AgriScience Ltd Unit 1, 15 Sir Gil Simpson Drive, Harewood, Christchurch, 8053 PO Box 39 071, Harewood, Christchurch, 8545
Web Address	www.orionagriscience.co.nz
Email Address	orders@orionagriscience.co.nz
Telephone Number	(03) 928 2386 (office hours), 0800 674 6627 (free phone)
Emergency Telephone	0800 CHEMCALL (0800 243 622) (24 hours)
National Poison Centre	0800 POISON (0800 764 766) (24 hours)
Date of Issue/Revision	June 2020

2: Hazards Identification

Hazard Pictograms



Signal Words

Hazard Classes:

- 3.1B Flammable Liquid (Cat. 2)
- 6.1C Acute Toxicity (Oral Cat. 3)
- 6.1D Acute Toxicity (Dermal Cat. 4)
- 6.1D Acute Toxicity (Inhalation Cat. 4)
- 6.4A Eye Irritation (Cat. 2)
- 6.8B Reproductive Toxicity (Cat. 2)
- 6.9A Target Organ Toxicity (Cat 2)
- 9.1A Aquatic Ecotoxicity (Cat. 1)
- 9.2D Soil Ecotoxicity
- 9.3B Terrestrial Vertebrate Ecotoxicity
- 9.4A Terrestrial Invertebrate Ecotoxicity

Precautionary Statements:

Prevention

Danger

Hazard Statements:

- H225 Highly flammable liquid and vapour
 - H301 Toxic if swallowed
 - H312 Harmful if in contact with skin
 - H332 Harmful if inhaled
 - H319 Causes serious eye irritation
 - H361 Suspected of damaging fertility or the unborn child
 - H372 Causes damage to organs through prolonged or repeated exposure
 - H410 Very toxic to aquatic life with long lasting effects
 - Harmful to the soil environment
 - Toxic to terrestrial vertebrates
 - Very toxic to terrestrial invertebrates
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking
- P233 Keep container tightly closed
- P240 Ground and bond container and receiving equipment
- P241 Use explosion proof electrical/ventilating/lighting equipment
- P242 Use non sparking tools
- P243 Take action to prevent static discharges
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P264 Wash hands thoroughly after handling
- P270 Do not eat, drink or smoke when using this product
- P271 Use only outdoors or in a well ventilated area
- P203 Obtain, read and follow all safety instructions before use
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P260 Do not breathe dust/fume/gas/mist/vapours/spray
- P203 Obtain, read and follow all safety instructions before use

Response	<p>Keep out of reach of children. Read label before use. Do not use until all safety precautions have been read and understood. Explosive concentrations of vapours may form in enclosed or poorly ventilated areas. Always use diluted in water. Never use neat or at high concentrations. Concentration of the product must not exceed 2% in the spray solution. Do not apply by thermal fogger or by hand-gun. Avoid contact with eyes and skin. Do not breathe in the vapour or spray mist. When mixing or applying, wear personal protection as described in section 8. Take all reasonable steps to ensure that this product does not cause any significant adverse effects to the environment beyond the application area. Do not apply directly into or onto water. Very toxic to bees – Do not apply this substance to plants if bees are foraging, or the plants are in flower or part flower, or are likely to flower within 8 days, and are likely to be visited by non-target invertebrate pollinators (including bees) (except tomatoes grown in greenhouses and strawberries)</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water (or shower)</p> <p>P370+P378 In case of fire use water spray, foam, dry chemical or CO2 to extinguish. Avoid water jet</p> <p>P301+P316 IF SWALLOWED: Get emergency medical help immediately</p> <p>P321 Specific treatment refer to section 4</p> <p>P330 Rinse mouth</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water</p> <p>P317 Get medical help</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse</p> <p>P304+P340 IF INHALED: Move person to fresh air and keep comfortable for breathing</p> <p>P317 Get medical help</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing</p> <p>P337+P317 If eye irritation persists: Get medical help</p> <p>P318 If exposed or concerned, get medical advice</p> <p>P319 Get medical help if you feel unwell</p> <p>P391 Collect spillage</p> <p>First aid measures described in section 4. Fire extinguishing instructions described in section 5. Contain and collect spillage for disposal. In an emergency call 111, Police or Fire Brigade. For specialist advice in an emergency only, call 0800 CHEMCALL (0800 243 6225) 24 hrs</p>
Storage	<p>P403+P235 Store in a well ventilated place. Keep cool</p> <p>P405 Store locked up</p>
Disposal	<p>Keep out of reach of children</p> <p>P501 Dispose of contents by using it in accordance with this label. Dispose of the container via AgRecovery after triple rinsing (use the rinsate for spraying).</p>

3: Composition/ Information on Ingredients

Ingredient	CAS No	Content (% w/v)
Methomyl (active ingredient)	16752-77-5	20
Methanol	67-56-1	> 60
Other ingredients	Proprietary	Remainder

4: First Aid Measures

If medical advice is needed, have product container or label at hand. If exposed or concerned, get medical advice. For advice call the National Poisons Centre or a Doctor.

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Ingestion:	Rinse mouth. Seek medical advice immediately.
Skin Contact:	Wash with plenty of soap and water. Seek medical advice if irritation occurs, or if feeling unwell.
Eye Contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if easy to do so. Continue rinsing. Seek medical advice if irritation persists.
Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice if feeling unwell.
Workplace Facilities:	Hand wash facility. Eye wash facility
Advice to Doctor:	Methomyl is a carbamate insecticide, which inhibits cholinesterase activity, and interferes in nerve pulse transmission. Onset of symptoms may be delayed for several hours. Atropine is the specific antidote and may be given immediately by qualified staff, at a level of 2 - 4mg (intravenously or intramuscularly), every 15 minutes until atropinisation occurs. Cholinesterase reactivators (Pralidoxime) are of limited value and may be harmful. Following ingestion, adsorbents such as charcoal may be of value. Methanol antidotes such as fomepizole or ethanol must also be considered.
National Poison Centre	0800 POISON (0800 764 766) (24 hours)

Symptoms of Exposure which could occur if this material is not handled in accordance with instructions:

Ingestion:	Abdominal pain, diarrhoea, vomiting, nausea, dizziness, sweating, headache, weakness, small pupils, blurred vision, excessive salivation, muscle twitching, cramps, cough, visual disturbances, drowsiness, shortness of breath, convulsions, unconsciousness.
Skin Contact:	Irritation. Prolonged or repeated contact may result in degreasing of the skin and dermatitis. Can be absorbed via the skin (see symptoms under 'swallowed' above).
Eye Contact:	Irritation. May cause blurred vision and constriction of the pupil.
Inhalation:	Irritation, breathing difficulties. Can be absorbed via the lungs (see symptoms under 'swallowed' above).

5: Fire-Fighting Measures

Fire/Explosion Hazard	Highly flammable liquid and vapour.
HAZCHEM Code	3WE
ERP Guide No	16
Extinguishing Media	Water spray, foam, dry chemical or CO2. Avoid water jet.
Fire Fighting Instructions	During a fire, toxic fumes may be emitted. Wear self-contained breathing apparatus. Contain runoff.
Specific Hazards Arising from Fire	No data available

6: Accidental Release Measures

Personal Precautions	Caution: Floors may be slippery if wet. Eliminate all ignition sources and naked lights. Use non-sparking equipment. Leave and/or avoid entering confined spaces. Wear personal protective clothing and equipment as described in section 8. Respiratory protection (with organic vapour cartridge) required for any spill other than minor. Exclude non-essential people from the area.
Environmental Precautions	Prevent further spillage or leakage. Prevent material from entering drains, waterways, etc.
Clean Up	Absorb spillage with inert material such as spill kit, sand or cat litter. Collect and place in a sealable container for disposal. Wash down affected area with water and detergent. Absorb and collect washings for disposal. Dispose of safely to a suitable landfill.

7: Handling and Storage

Storage:	Keep out of reach of children. Store in the original tightly closed container in a cool, well ventilated, locked and secure area.
Handling and Use:	Refer to Prevention statements in section 2 above. Exclude people and animals from the application area, both during application and for the duration of the REI.
REI	24 hours (for boom, aerial or knapsack applications up to 1.5 L/ha) or 48 hours (for higher rates and/or other application methods).

8: Exposure Controls / Personal Protection

Tolerable Exposure Limit	None established
Workplace Exposure Standards	Active ingredient – Methomyl 2.5 mg/m ³ (8hr TWA) Excipients – Methanol: 200 ppm / 262 mg/m ³ (8hr TWA); 250 ppm / 328 mg/m ³ (STEL)
Engineering Controls	Select spray application equipment to minimize exposure to operator and bystanders
Personal Protection:	
Eye	Safety glasses/goggles (or full face respirator incorporating visor) when mixing or applying
Skin	Chemical resistant coveralls with hood tightly fitting at head, wrists and ankles (e.g., Tychem F suit), chemical resistant boots and chemical resistant gloves (barrier multilayer, nitrile, neoprene, butyl).
Respiratory	Respirator (organic vapour, low boiling organic gases and particulate matter) when mixing or applying.
	Clean protective equipment after use

9: Physical and Chemical Properties

Appearance	Clear Blue Liquid
Odour	Solvent like
Odour Threshold	No data available
pH	5.0 – 8.0 (1% v/v)
Melting Point/Freezing Point	No data available
Boiling Point	No data available
Flash Point	11°C
Upper/Lower Flammability Limits	6 – 50% (methanol). Vapour will form explosive mixture in air
Vapour Pressure	No data available
Vapour Density	1.1 (Air = 1, heavier than air)
Relative Density	0.88 g/ml (approx.)
Solubility in Water	Miscible
Partition Coefficient: n-octanol/water	LogP = 0.09 (low) (Methomyl)
Auto ignition Temperature	385°C
Decomposition Temperature	No data available
Kinematic Viscosity	No data available

10: Stability and Reactivity

Stability	Stable under normal conditions
Hazardous Reactions	Vapour may form an explosive mixture in air
Incompatibility	None Known
Hazardous Decomposition Products	None Known

11: Toxicological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet and label instructions

Acute Oral Toxicity	LD50 50 - 300 mg/kg
Acute Dermal Toxicity	LD50 1000 - 2000 mg/kg
Acute Inhalation Toxicity	LC50 1 - 5 mg/L
Skin Irritant/Corrosive	None
Eye Irritant/Corrosive	Strongly Irritating
Sensitisation Effects	None
Mutagenic Effects	None
Carcinogenic Effects	None
Reproductive Effects	Long term exposure to methanol vapour can have reproductive/developmental effects.
Specific Organ Toxicity	Long term animal feeding studies on methomyl have found effects on the kidneys. Inhalation of methanol

vapour has found effects on vision.

12: Ecological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet and label instructions

The following information is presented in respect of the active ingredient:

Ecotoxicity	<ul style="list-style-type: none"> • Acute Oral LD50 (Rat) 17 mg/kg • LC50 (96 hr) (Catfish) 0.53 mg/l • EC50 (48 hr) (Daphnia) 0.009 mg/l • LC50 (96 hr) (Stonefly) 0.07 mg/l • Very toxic to bees.
Persistence/degradability	Biodegradable. DT50 (soil) 7 days (typical)
Bioaccumulative Potential	Octanol-water partition coefficient LogP = 0.09 (low)
Soil Mobility	Soil organic carbon water partitioning coefficient Koc = 72 (mobile)
Environmental Exposure Limit:	None established.

13: Disposal Considerations

Product	Dispose of product by using it in accordance with the label. Do not burn. For disposal of large quantities contact Orion AgriScience Ltd.
Container	Dispose of via AgRecovery after triple rinsing (use the rinsate for spraying), or to a suitable landfill. Do not burn. Do not use packaging for any other purpose.

14: Transport Information

Dangerous Goods	
UN Number	2758
Proper Shipping Name	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC (METHOMYL 20%, METHANOL 60%)
Class	3
Subsidiary Class	6.1, 9
Packing Group	II
Additional Information	MARINE POLLUTANT
MTQ (Non-Commercial)	50 litres
Passenger Service Vehicle	Maximum quantity 1 litre

15 Regulatory Information

EPA Approval No	HSR000584
ACVM Registration No	P7639
Qualified Person	Required
Certified Handler	Not required
Workplace Only	Yes
Tracking	Not required
Record Keeping	Required. As a carbamate insecticide, details of measures taken to ensure there are no adverse effects beyond the boundary of the property into an adjoining property or into a sensitive area must also be recorded.
Site Requirements under EPA Notice and HSWHS Regs:	<ul style="list-style-type: none"> • A hazardous substance location compliance certificate is required for more than 100 litres (closed containers > 5 litres size), 250 litres (closed containers ≤ 5 litres size), or 50 litres (open containers) • A hazardous area is required • Separation distances for class 3 and class 6 substances to protected places and public places is applicable

- Fire extinguishers are required for more than 250 L (2 fire extinguishers)
- Signage is required for more than 100 L
- An emergency response plan is required for more than 100 L
- Secondary containment is required for more than 100 L
- Segregation from incompatible substances (classes 1, 2, 3.2, 4 and 5) is required

Maximum 2.4 L/ha

Application Rate

Notification

For wide dispersive use, written notification must be given to any persons likely to be affected – this includes occupiers and owners immediately neighbouring the application area. Notification must be made 2 days – 4 weeks ahead of the application. Notification must include the location of the application area; the proposed date and approximate duration of the application; the steps to be taken by those notified to avoid exposure (e.g., staying indoors, closing windows and doors, moving washing indoors, disconnecting roof water supply, etc.); and the notifiers details (including name and phone number for immediate contact during application).

Signage

Entry signs are required for indoor applications. Signs must be posted at every access point to the application area stating an application is being carried out using a substance that is toxic to people; access is not permitted unless appropriate protective equipment is worn; the person in charge; the date of the application; and the time/date of the expiry of the REI.

Additional Requirements

Refer to NZS 8409:2004 'Management of Agrichemicals', and relevant local and regional council plans

16: Other Information

Glossary

ADE	Acceptable Daily Exposure – A daily dose, received via any route, below which no adverse effects are expected over a lifetime of exposure
ACVM	Agricultural Compounds and Veterinary Medicines group of the Ministry of Primary Industries
Cat.	GHS category
Ceiling	A concentration that should not be exceeded at any time during any part of the working day
Certified Handler	A qualification issued by a Compliance Certifier to handle and use particularly toxic substances (6.1A and 6.1B)
DT50	Time (days) for 50% reduction in concentration
EC50	Concentration required to produce an effect in 50% of organisms
Environmental Exposure Limit	Maximum concentration limit of a substance in an environmental medium, e.g., water, soil.
EPA Notice	Hazardous Property Controls Notice 2017
ERP Guide	Dangerous Goods – Initial Emergency Response Guide SNZ HB 76:2008
GHS	Globally harmonized system of classification and labelling of chemicals
Hazardous Substance Location	For locations storing hazard substances of certain classes above threshold quantities
Compliance Certificate	
Hazardous Area	A designated area designed for the presence of flammable substances - Refer AS/NZS 60079.10.1:2009
HAZCHEM Code	Emergency action code for emergency services
HSWHS Regs	Health and Safety at Work (Hazardous Substances) Regulations 2017
LC50	Concentration that will kill 50% of organisms
LD50	Dose that will kill 50% or organisms
MTQ	Maximum Transport Quantity. The maximum amount of dangerous goods that can be transported by road by the user
Notification	Advance notice given to neighbours and other affected parties, of details of proposed application, and other details as described
Octanol-Water Partition Coefficient	The partition coefficient of a substance between n-octanol and water, used as the Logarithm base 10 form, as an indicator that a substance may bioaccumulate
Protected Place	Residential properties, schools, hospitals, kindys, factories, shops, warehouses, etc., and other places where

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Public Place	people assemble A place frequented by the public, including roads (does not include private property)
Qualified Person	A requirement for the loader, contractor or person applying the product to hold a qualification such as a GROWSAFE Certificate, Unit Standard 21563, etc.
Record Keeping	Includes a spray diary or other record of application
REI	Restricted Entry Interval – The length of time after application before entry into the treated area is permitted without the use of protective equipment. For indoor environments, this time period commences once ventilation after treatment begins.
Segregation	Certain classes of substances must not be in contact with, and must be stored separately from, certain other classes as specified in HSWHS Regs
Separation Distances	The distances specified in Part 11 and Part 13 of HSWHS Regs between storage and/or use of hazardous substances and protected places and/or public places
Signage	Positioned at entrances to commercial premises providing information on the hazardous substances present
Soil Adsorption Coefficient (Kd)	The ratio of the concentrations of a substance adsorbed onto a solid sorbent to that dissolved in a liquid phase. The higher the value the less mobile the chemical is in soil
Soil Organic Carbon-Water Partitioning Coefficient (Koc)	The ratio of the mass of a chemical that is adsorbed in the soil per unit mass of organic carbon in the soil. The higher the value the less mobile the chemical is in soil
STEL	Short term exposure level – 15 minute time weighted average
Tolerable Exposure Limit	Maximum concentration limit of a substance above which persons must not be exposed
Tracking	For some particularly hazardous substances, a record must be kept of the transport, storage, sale and use of the product
TWA	Time weighted average calculated over an 8 hour working day
Workplace Exposure Standard	An occupational health standard limiting concentrations of specified substances to which persons are exposed
Workplace Only	A product that is restricted to a workplace only and under the supervision of a certified handler

Please Note

Users must ensure that the most up to date version of this safety data sheet is used.

This Safety Data Sheet summarises information on this product, and how to safely handle and use the product. Each user should familiarise themselves with the product label and Safety Data Sheet, and consider the information in the context of how the product will be handled and used, including in conjunction with other products. Orion AgriScience Ltd assumes no responsibility for the accuracy, completeness or suitability of this information. The user is responsible for determining the suitability and accuracy of this information for their particular purposes.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.